USDA United States Department of Agriculture | Forest Service | Northeastern Area State and Private Forestry | 180 Canfield Street Morgantown, WV 26505-3101

**File Code:** 3400
**Date:** May 17, 2007

Mr. Mel Poole
USDI National Park Service
Catoctin Mountain Park
Thurmont, MD 21788

Dear Mel:

Enclosed is the report that documents the gypsy moth suppression project at Catoctin Mountain Park.

A total of 1339 acres were treated with Btk using a rotor wing aircraft on May 8 and 9.

I would like to thank you, Jim and Becky and all other members of your staff who participated on the project.

Treatment efficacy will be evaluated through a defoliation survey conducted in June and an egg mass survey this fall. As in past years, we would like your staff to conduct the preliminary egg mass survey during late summer.

If you have any questions concerning the suppression project or report, please call me at 304-285-1555.

Sincerely,

Rodney L. Whiteman

RODNEY L. WHITEMAN
Forester
Forest Health Protection

Enclosure

Cc: Jil Swearingen, CUE
Jim Voight, CMP
Robert Tichenor, MDA
Noel Schneeberger, AO

RLW/blm

# GYPSY MOTH SUPPRESSION PROJECT SUMMARY
# at
# CATOCTIN MOUNTAIN PARK

May 8-9, 2007

Report by:
Rodney L. Whiteman, Forester

Forest Health Protection
USDA Forest Service
Morgantown, WV

On May 8 and 9, 2007, approximately 1339 acres at Catoctin Mountain Park were aerially treated to reduce gypsy moth populations and to prevent defoliation.

A single application of the biological insecticide *Bacillus thuringienis* variety *kurstaki (Btk)* was applied undiluted at the rate of 96 ounces (36 BIUs) per acre. The formulation of Btk used was Foray® 48F.

A rotary-winged aircraft equipped with a Differential Global Positioning System (DGPS) was used to apply the insecticide.

This report documents the spray equipment, insecticide, meteorological conditions, foliage and larval development, and spray coverage for the project. Treatment efficacy will be reported once defoliation surveys are conducted in June and egg mass surveys are completed this fall.

## Aircraft and Spray Equipment

| | |
|---|---|
| Contractor: | Summit Helicopters, Inc. |
| Aircraft: | Bell 206 B III |
| FAA Number: | 206BE |
| Pilot: | Jim Carlton |
| DGPS Brand: | AG-NAV |
| Spray System: | Isolair |
| Nozzle Type: | AU 5000 Micronairs |
| Number of Nozzles: | 4 |
| Blade Angle: | 35° |
| VRU Setting: | 9 |
| Target VMD: | 150 microns |
| Application Rate: | 96 ounces/acre |
| Boom Pressure: | 36 psi |
| Air Speed: | 75 mph |
| Swath Width: | 100 feet |
| Flow Rate: | 11.36 gpm (calculated)<br>11.08 gpm (actual) |

## Meteorological Conditions

| Date | Time | Temperature Range | RH Range | Wind Speed Range | Gusts |
|---|---|---|---|---|---|
| 5/8 | 0610-0845 | 40-56° F | 40-60% | Calm | N/A |
| 5/9 | 0601-1005 | 50-70° F | 69-90% | 0-5 | up to 9 |

A detailed list of weather conditions is enclosed in Appendix A

Foliage and Larval Development

| Date | Foliage Development (Average) | | Larval Development |
|---|---|---|---|
| 5/8 and 5/9 | red oak | 60% | 75% first instar |
| | chestnut oak | 35% | 25% second instar |
| | white oak | 25% | |
| | black oak | 30% | |

Spray Coverage

Based on observations made by personnel in the treatment blocks and by viewing the AG-NAV printouts (Appendix B), spray coverage was excellent. There were no significant skips in any of the treatment blocks and very little area outside of the treatment blocks were sprayed.

Narrative

This suppression project was divided into two treatment areas (Figure 1). Block 1 was 1306 acres while block 2 was 33 acres. The project was staged from a field at Black's Orchard (Figure 1). This staging area/loading zone was located approximately 1.5 miles away from the largest spray block.

The project commenced on the morning of May 8 at 0623 and was terminated at 0843 due to low relative humidity (40%). A total of 522 acres were treated for the day, all in block 1.

Treatment resumed on the morning of May 9 in block 1 at 0638 and was completed in this block at 0951. Treatment of block 2 was delayed because the contractor ran out of Btk. After a small delivery of Btk was made, the treatment resumed at 1109 in block 2 and was completed at 1129. A total of 817 acres were sprayed for the day.

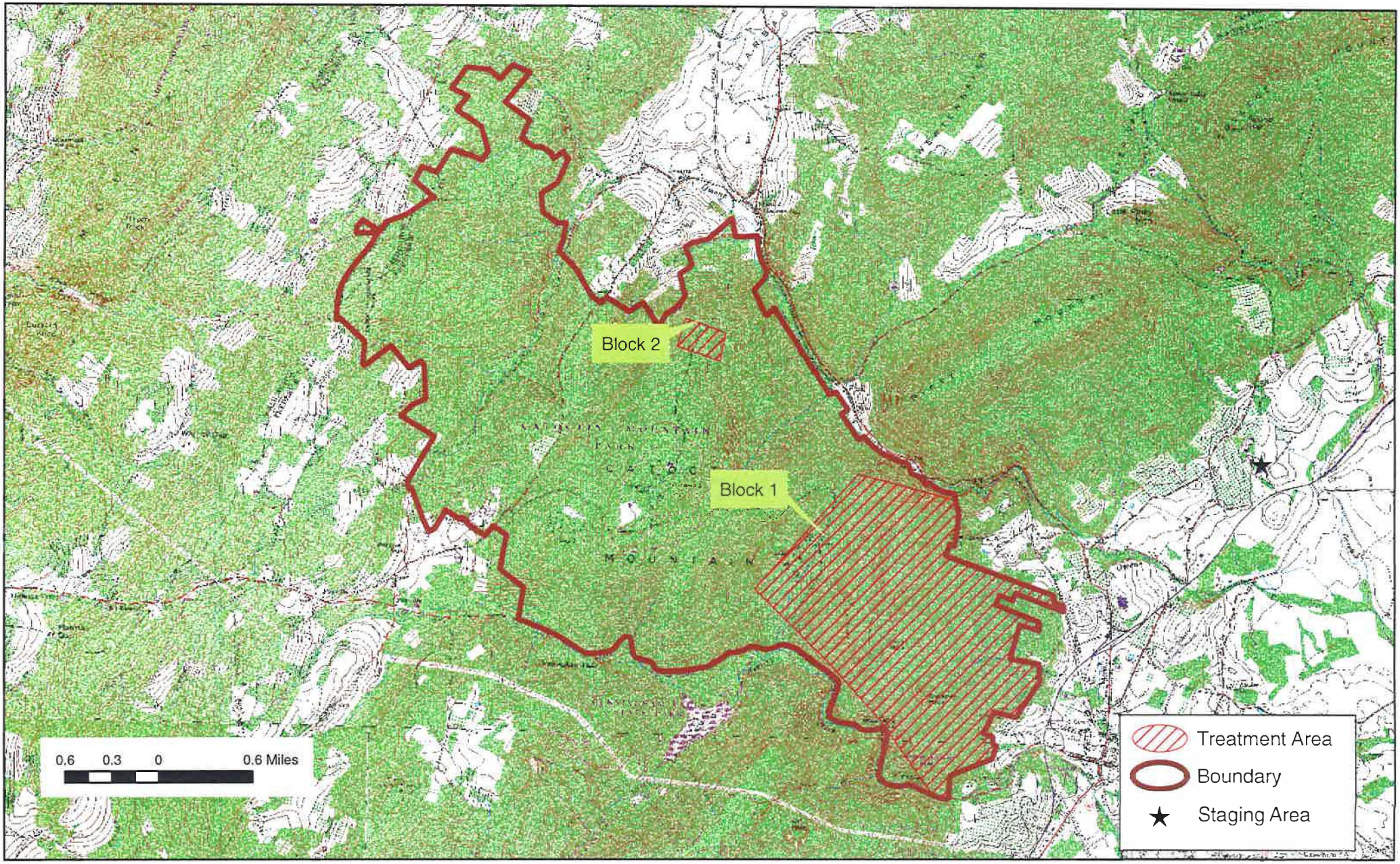
A total of 16 sorties were flown to treat 1339 acres. The daily sortie reports are enclosed in Appendix C. Treatment timing based on larval and foliage development was good. No accidents or incidents occurred during the project.

Outside of temporarily running out of spray material on May 9th, no problems were encountered with the spray equipment ground support equipment and/or personnel provided by the contractor, Summit Helicopters, Inc. However, the production rate of the project was 224 acres per hour which was less than the desired rate of 250 acres per hour.

The two largest concerns with the project was not putting the contract "out on the streets" for vendors to bid on and the initial insistence of Camp 3 with putting one of their personnel on the spray aircraft.

On future contracts, all vendors that want to bid on the contract should be allowed. By not allowing open and fair competition, it cost the Government approximately an extra $20,000 on the price of the contract in 2007.

Figure 1. -- Gypsy moth spray blocks at Catoctin Mountain Park, May 8-9, 2007.



Spray aircraft are classified as "restricted use" which means only necessary crew members are allowed to fly onboard. By putting others onboard not only decreases payload but exposes a another person to a high-risk situation. Allowing passengers onboard a spray aircraft on a Forest Service funded project is a violation of both Forest Service and FAA regulations. Camp 3 must be made aware of the project as early as possible and must be made aware that their personnel will not be onboard of the spray aircraft.

As stated previously, treatment efficacy will be evaluated through a defoliation survey conducted in June and an egg mass survey this fall. The suppression project will be considered successful if the goals of preventing noticeable defoliation on less than 20 percent of the treatment area and reducing residual gypsy moth populations below the treatment threshold on at least 80 percent of the treatment area.

# APPENDIX A

Meteorological Conditions

During Treatment

## Meteorological Conditions During Treatment

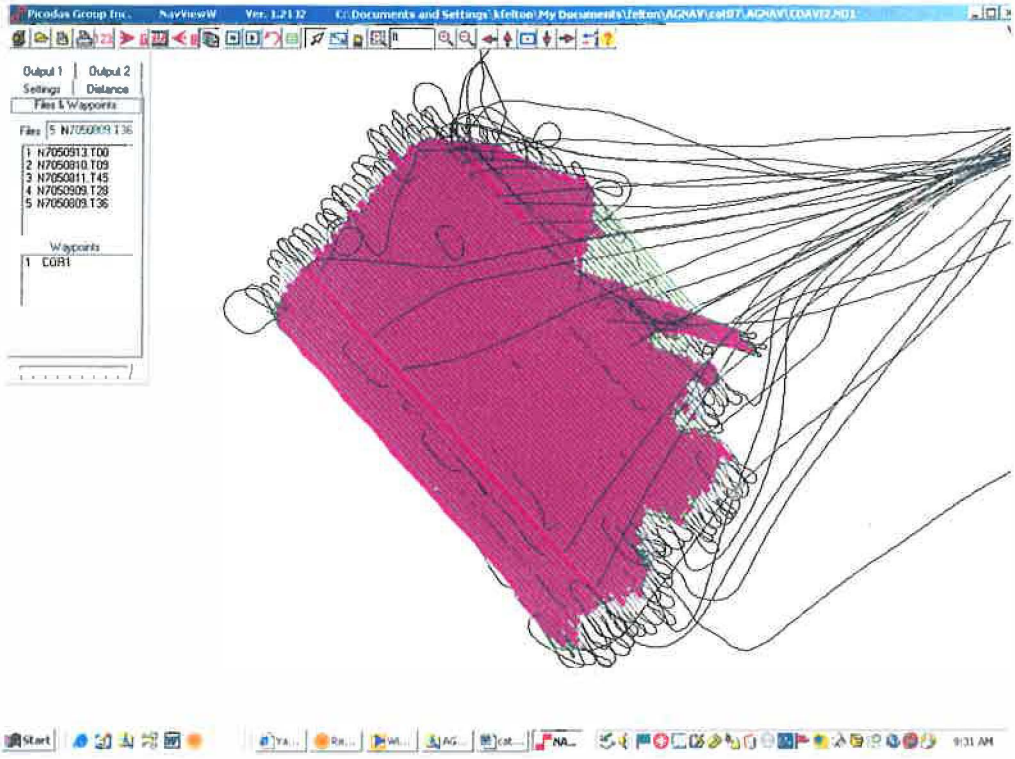
| Date | Time | Location | Temperature | RH | Wind Speed | Wind Gusts |
|---|---|---|---|---|---|---|
| 5/8 | 0610 | Thurmont Vista | 45° F | 48 % | Calm | -- |
| 5/8 | 0745 | Visitor Center | 45° F | 60 % | Calm | -- |
| 5/8 | 0845 | Wolf Rock pull off | 56° F | 40 % | Calm | -- |
| 5/9 | 0601 | " " | 50° F | 90 % | Calm | -- |
| 5/9 | 0640 | " " | 55° F | 82 % | Calm | -- |
| 5/9 | 0700 | " " | 60° F | 83 % | Calm | -- |
| 5/9 | 0740 | Thurmont Vista | 62° F | 78 % | Calm | -- |
| 5/9 | 0800 | " " | 63° F | 84 % | 2-3 | -- |
| 5/9 | 0840 | " " | 63° F | 78 % | 2-3 | 4-5 |
| 5/9 | 0900 | " " | 64° F | 78 % | 2-3 | 3-5 |
| 5/9 | 0920 | " " | 66° F | 77 % | 3-5 | 6-9 |
| 5/9 | 0940 | " " | 66° F | 81 % | 2-5 | 5-8 |
| 5/9 | 1005 | Mt Airy Trail | 70° F | 69 % | 2-5 | -- |

# APPENDIX B

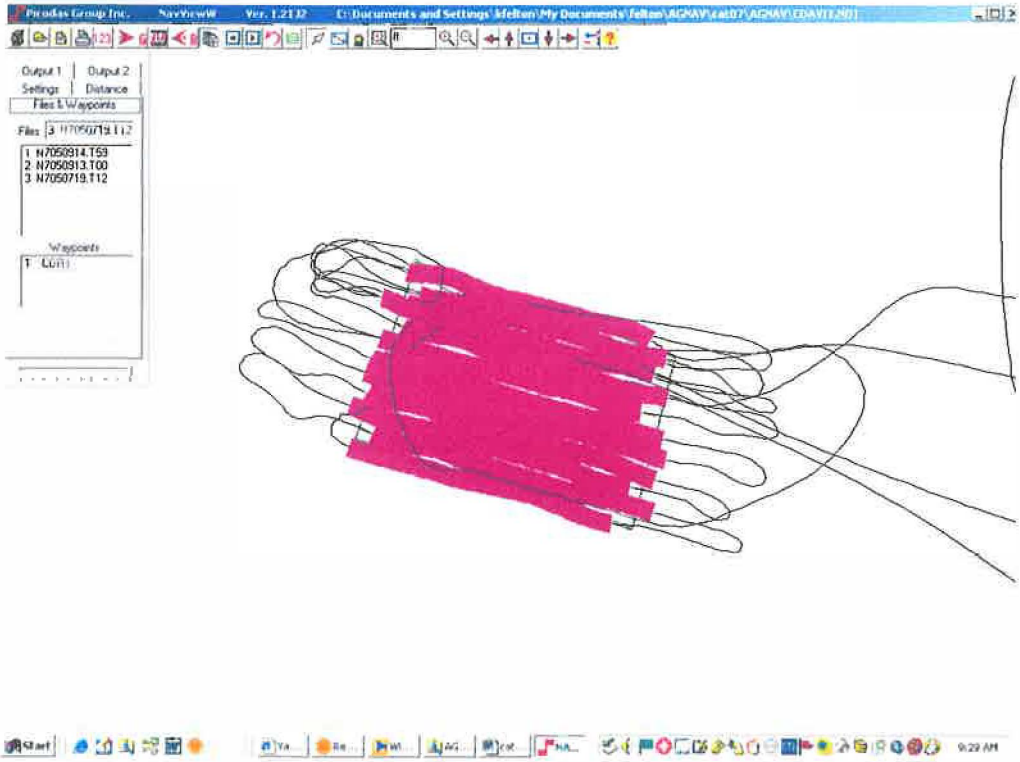
AG-NAV

Printouts

Catoctin Mountain Park Gypsy Moth Suppression Project
Block 1- May 8 and 9, 2007.




Catoctin Mountain Park Gypsy Moth Suppression Project
Block 2 – May 9, 2007.



# APPENDIX C

Daily Sortie

Report

# DAILY SORTIE REPORT

Project coordinator: Rod Whiteman
Date: 5/8/07 and 5/9/07 Location: CMP
Aircraft ID: 206 BE Pilot: Jim Carlton

| Load # | Gallons | Take off time | Return time | Acres treated | Block ID |
|---|---|---|---|---|---|
| 1 | 65.3 | 0623 | 0648 | 87.0 | 1 |
| 2 | 65.3 | 0649 | 0709 | 87.1 | 1 |
| 3 | 65.3 | 0711 | 0728 | 87.1 | 1 |
| 4 | 65.3 | 0744 | 0803 | 87.0 | 1 |
| 5 | 65.3 | 0804 | 0822 | 87.1 | 1 |
| 6 | 65.3 | 0824 | 0843 | 87.1 | 1 |
| | | | | | |
| 1 | 65.3 | 0638 | 0659 | 87.0 | 1 |
| 2 | 65.3 | 0700 | 0718 | 87.1 | 1 |
| 3 | 65.3 | 0721 | 0738 | 87.1 | 1 |
| 4 | 65.3 | 0740 | 0756 | 87.0 | 1 |
| 5 | 65.3 | 0758 | 0817 | 87.1 | 1 |
| 6 | 65.3 | 0819 | 0840 | 87.1 | 1 |
| 7 | 65.3 | 0843 | 0900 | 87.0 | 1 |
| 8 | 65.3 | 0901 | 0921 | 87.1 | 1 |
| 9 | 65.3 | 0926 | 0954 | 87.1 | 1 |
| 10 | 25 | 1109 | 1129 | 33 | 2 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

COMMENTS (Cause of delays, accidents, reason for shut-downs etc.)

Stopped after load #6 on 5/8 due to low RH

Stopped after load #9 on 5/9 due to lack of BT

SIGNATURES
Project Coordinator: Rodney L Whiteman

Contractors Representative: